

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: TURNER, WILLIAM

Application No.: 09/903,034

Filing Date: 07/11/01

For: TELEVISION SYSTEM

Art Unit: UNKNOWN



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Enclosed herewith is a certified copy of British Patent Application No. 0016958.1 for which the above-identified patent application claims priority from.

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Respectfully Submitted

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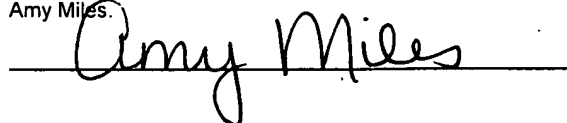
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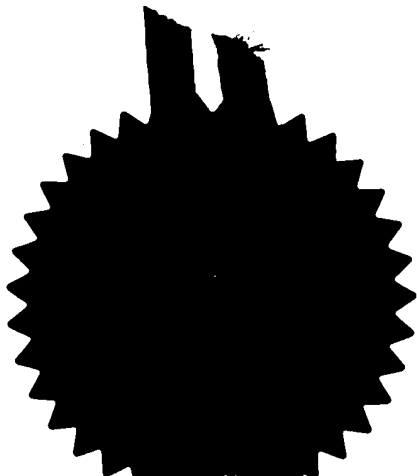
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0016958.1

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12 JUL 2000

The Patent Office

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1. Your reference	AT-G30158
2. Patent application number (The Patent Office will fill in this part)	12JUL00 E551909-2 D00346 P01/7700 0.00-0016958.1
3. Full name, address and postcode of the or of each applicant (underline all surnames)	Pace Micro Technology Plc Victoria Road Saltaire Shipley BD18 3LF U.K 07588569001 06905293001
Patents ADP number (if you know it)	
If the applicant is a corporate body, give the country/state of its incorporation	
4. Title of the invention	Television System

5. Name of your agent (if you have one)	Bailey Walsh & Co.
"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)	5, York Place Leeds LS1 2SD
Patents ADP number (if you know it)	224001

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7. If this application is divided or otherwise derived from an earlier UK application, the earlier application	Number of earlier application	Date of filing (day / month / years)
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8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer "Yes" if:	Yes
a) any applicant named in part 3 is not an inventor, or	
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Description

6

Claim(s)

Abstract

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1

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Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

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11. I/We request the grant of a patent on the basis of this application

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Date

A Tomkinson

11.07.00

12. Name and daytime telephone number of person to contact in the United Kingdom

A Tomkinson
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Television System

This invention relates to a television system.

A television system hereinafter described includes a broadcaster for transmitting digital data via terrestrial, cable or digital means, which is received by a broadcast data receiver (called a set top box). The digital data results in a large number of channels and programs available for selection by a user. Conventional listing means for the large number of channels and programs are inadequate and this has resulted in the development of Electronic Programme Guides (EPGs).

A user will typically select a programme to watch on the television system based on whether the content of the programme will interest them. Conventionally a user obtains information relating to the content of the programme using an EPG or via a television guide in a paper format. This information is typically in the form of a short, brief summary. The summary is typically composed by a third party who may not share similar interests to that of the user and thus not include information in the summary which the user may find of use for deciding whether the programme was of interest to them. Therefore, the conventional summaries provided in TV listings do not generally encapsulate sufficient information for a user to determine whether a programme is of interest to them.

For example, a segmented programme (i.e., Tomorrow's World) will typically trailer/advertise one or two major segments of the programme, prior to the showing of the programme, in order to inform the viewers as to the general theme of that particular show. However, a viewer may be interested in a smaller, minor segment of the show which is not typically advertised or shown as a trailer prior to the showing of the programme. The user may

decide not to watch the show based on the advertisement and may miss the minor segment which is of interest to them.

It is therefore an aim of the present invention to overcome the abovementioned problem and to provide a user with a means of finding further information relating to a programme if required.

According to a first aspect of the present invention there is provided a television system including a broadcaster for transmitting digital data via terrestrial, cable or digital means, which is received by a broadcast data receiver for generation of audio/visual and auxiliary data, and a display screen, said television system including memory means for storing data relating to programme information and wherein said television system is provided with a search tool to allow a user to search said memory means by generating a user request for programme information, and said television system is capable of matching the request with any corresponding programme information in the memory for display on the display screen.

Preferably the memory means contains subtitle and/or closed caption data relating to programme information.

Further preferably the memory means is supplemented with descriptions of programmes where subtitles are not provided in advance. For example, programmes such as Live News Broadcasts.

Preferably a user query box is provided on the display screen for a user to type in their request, which they wish to be searched. The criteria typically can comprise key words, phrases, codes defined by the broadcaster and/or the like.

In one embodiment the memory means is located at the broadcaster station. The broadcaster typically updates the memory with future and real time programme information to form a database accessible by a user using the search tool.

In one embodiment the memory means is located in the broadcast data receiver. The broadcaster can send programme information to the broadcast data receiver for storage in the memory means at pre-determined intervals. The programme information can relate to future programmes and/or real time programmes. The programme information can be stored in the memory means until the programme has been shown on the display screen.

Preferably the programme information to which the identified request criteria are matched can include the time and date of showing of the programme containing the criteria, the length of the programme, the channel the programme is to be shown thereon, a summary of the programme to be shown and/or the like.

Preferably the format of the programme information displayed on the display screen in response to a user's query is determined by the broadcaster. Alternatively, the format can be determined by the user and can be selected from a drop down menu or similar.

In one embodiment frequently requested information is stored in the memory in a saved format such that the time taken to search a query containing such information is reduced.

According to a second aspect of the present invention there is provided a television system including a broadcaster for transmitting digital data via terrestrial, cable or digital means,

which is received by a broadcast data receiver for generation of audio/visual and auxiliary data, and a display screen, said broadcaster including memory means for storing subtitle and/or closed caption data relating to programme information and wherein said television system is provided with a search tool to allow a user to search said memory means by generating a user request for programme information, and said television system is capable of matching the request criteria with any corresponding programme information in the memory means for display on the display screen.

Preferably all, or selective data contained in the memory means at the broadcaster is sent to a memory means at the broadcast data receiver for searching by a user.

According to a further aspect of the present invention there is provided a method of obtaining programme information in a television system in response to a user's query, said television system including a broadcaster for transmitting digital data via terrestrial, cable or digital means, which is received by a broadcast data receiver for generation of audio/visual and auxiliary data, and a display screen, said television system including memory means for storing data relating to programme information and wherein said method includes inputting a query into said television system, searching said memory means for programme information relating to said query, displaying on said display screen identified programme information matching the query.

Preferably the stored data is subtitle and/or closed caption data.

An advantage of the present invention is that it provides the user with access to a large amount of information, which is already present in databases, which is unbiased information, and

which includes programme specific data such as subtitle and closed-caption text, as well as verbose descriptions of programmes that do not carry subtitle/closed-caption data. Thus the present invention combines the resource of subtitle/closed caption data with Internet style search engine tools, such as Natural Language Processing (NLP) to allow the user to identify which programmes are likely to be of interest to them.

An embodiment of the present invention will now be described with reference to the accompanying figure, wherein:

Figure 1 is a schematic diagram showing the steps of the present invention.

Referring to Figure 1 there is shown a television system comprising a display screen 2 communicating with a broadcast data receiver in the form of a set top box 4 and a broadcaster 6.

A user inputs a query into the set top box 4 using a keyboard (not shown) via a user's query box provided on display screen 2.

A remote control, joystick and/or the like can also be used to input a query into the set top box.

The user's query is sent to a server 8 located at broadcast station 6, as shown by arrows 10. The server 8 processes the query expression to identify criteria on which the search is to be undertaken. The server 8 then searches EPG and/or closed caption databases 12 and 14 respectively for matches to the determined criteria. Programme information containing the matched criteria is cross referenced with EPG data to produce the resulting programme or programmes and details of the same are sent from the server 8 to the set top box 4 for display on display screen 2, as shown by arrows 16.

The results to the user's query can be displayed in a form that the user can browse and select programmes to watch and record. The display format can be selected by the user from a drop down menu or the display format can be determined by the broadcaster.

For example, a user may send a query to the server requesting information as to "what programmes are on this evening relating to cars". The server processes this request and searches the subtitle/closed caption database for information relating to the key words "cars" and "this evening". Any programme information found containing the key words is matched with information from the EPG database and EPG format data is returned to the set top box for display on the display screen. For example, the information returned may include the name of a programme containing the requested information, the channel on which the programme is to be shown, the time of the programme, the length of the programme, a brief summary of what the programme is about and/or the like.

Thus it can be seen that the present invention provides a link between search engine technology and subtitle/closed caption data for use with a television system to allow a user to identify which programmes are of interest to them.

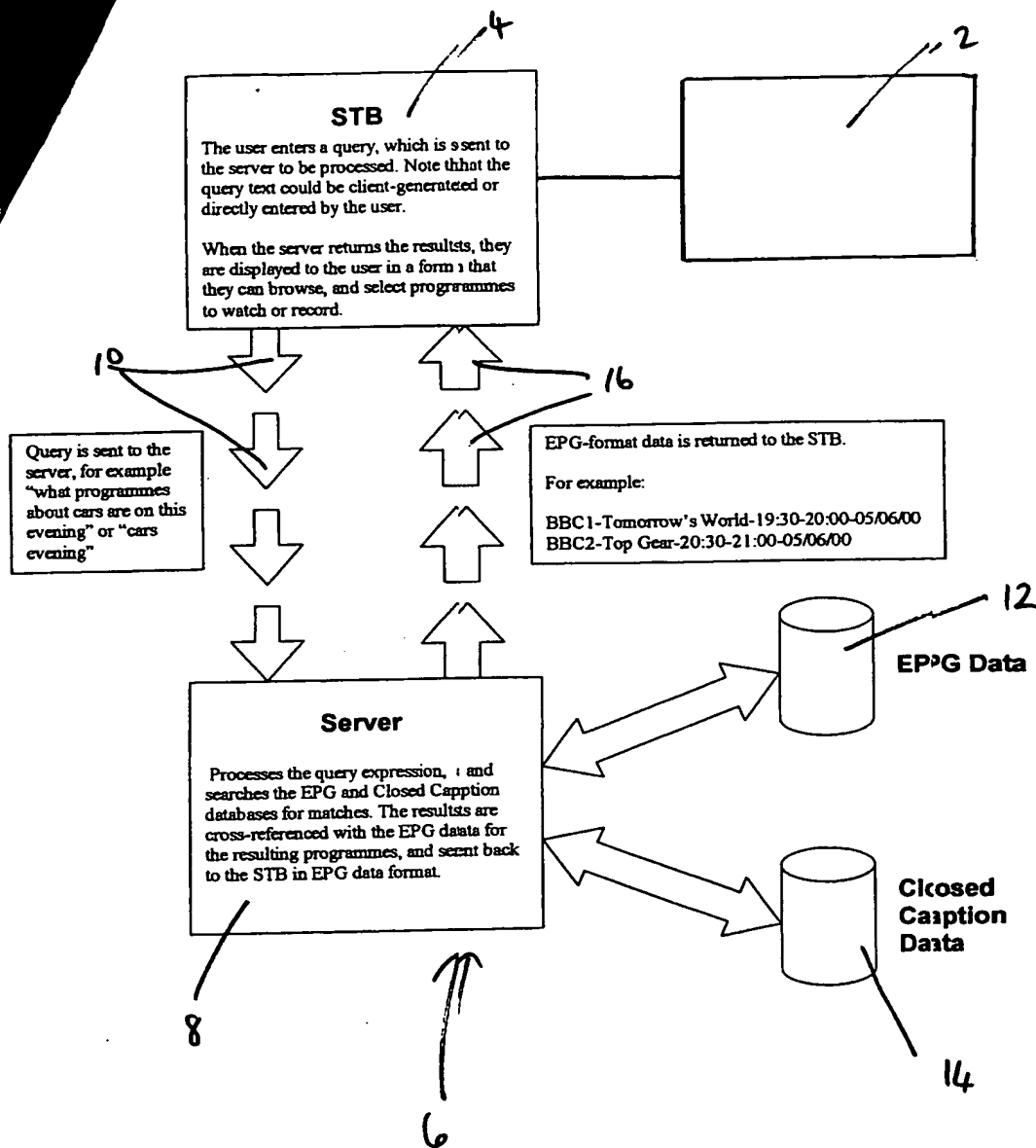


Figure 1

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